

REMARKS/ARGUMENTS

Applicant responds herein to the Office Action dated July 26, 2005.

The Examiner has required a new title and one has been supplied.

Claims 1-3 and 5-18 were rejected under 35 U.S.C. §102(a) as being anticipated by Hu, et. al., U.S. Patent Application Publication US 2003/0157773. Reconsideration of the rejection is respectfully requested.

Independent claim 1 has been amended to provide, in part, for, “[a] method of manufacturing a semiconductor device, comprising the steps of: ... wherein the temperature during said thermally oxidizing step is higher than the temperature of all other processes performed later in the manufacture of the semiconductor device than said thermally oxidizing step.” Antecedent basis for this amendment is found in the specification, for example, on page 17, lines 11-18. Independent claim 13 has been amended to provide, in part, for, “[a] semiconductor device comprising: ... an oxide film formed on the semiconductor substrate, nitrogen being included in the oxide film, ... the nitrogen concentration in the oxide film [being] ... nonuniform with respect to a depth in the oxide film, said depth being measured perpendicularly to the interface between the semiconductor substrate and the oxide film.” Antecedent basis for the amendment is found in the specification on page 19, lines 9-17; page 20, lines 2-25; page 34, lines 6-18; and in the drawings in Fig. 6.

The Examiner contends that the feature of “the temperature during the thermally oxidizing is higher than the temperature of any other process performed later than the thermally oxidizing,” (Office Action, page 2, paragraph 4, lines 4-6), is disclosed in paragraph [0025] in Hu, et. al. Nevertheless, it is respectfully submitted that paragraph [0025] in Hu, et. al. does not disclose, teach, or suggest that the temperature of 700°C to 1100°C used for the rapid thermal oxidation, as described therein, is higher than the temperature of all other processes performed later than the rapid thermal oxidation in the manufacture of the semiconductor device disclosed therein. Since claims 2-3, and 5-12 are directly or indirectly dependent upon independent claim 1, they are allowable over Hu, et. al. for the same reasons recited above with respect to the allowability of independent claim 1 over Hu, et. al.

In connection with claim 13, Hu, et. al. expressly discloses that the dielectric layer formed by the oxidation of layer 16, comprising nitrogen and oxygen, has a relatively uniform nitrogen profile or, in other words, that the concentration of nitrogen is relatively constant at different depths throughout the dielectric layer, (paragraphs [0023] to [0024]; paragraph [0033], lines 1-8). In contrast, as previously indicated, claim 13 requires a nonuniform nitrogen concentration in the oxide film with respect to depth in the oxide film. Since claims 14-18 are directly or indirectly dependent upon independent claim 13, they are allowable for the same reasons recited above with respect to the allowability of independent claim 13 over Hu, et. al.

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Hu, et. al. as applied to claims 1-3 and 5-18. Reconsideration of the rejection is respectfully requested.

Since claim 4 is directly dependent upon independent claim 1, it is allowable over Hu, et. al. for the same reasons recited above with respect to the allowability of independent claim 1 over Hu, et. al.


In view of the foregoing amendments and remarks, allowance of claims 1-18 and newly added claims 19-21 is respectfully requested.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

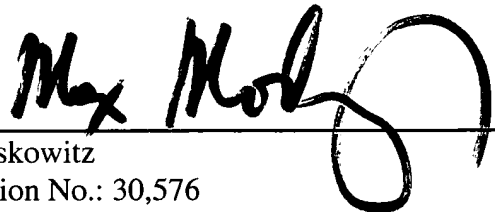
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on October 24, 2005:

Max Moskowitz

Name of applicant, assignee or
Registered Representative


Signature
October 24, 2005
Date of Signature

Respectfully submitted,



Max Moskowitz

Registration No.: 30,576

OSTROLENK, FABER, GERB & SOFFEN, LLP

1180 Avenue of the Americas

New York, New York 10036-8403

Telephone: (212) 382-0700